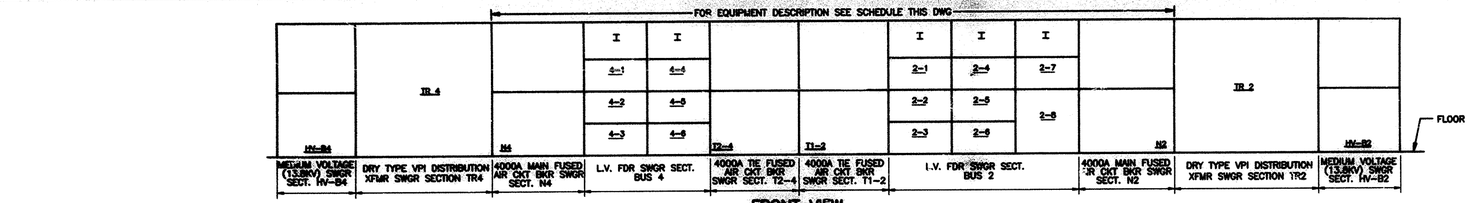
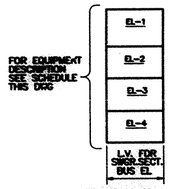
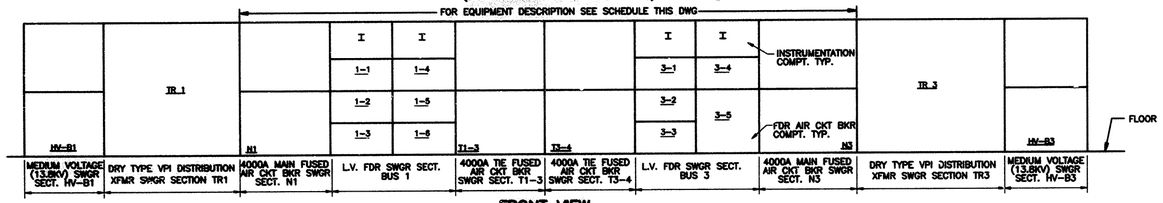


FRONT VIEW
(SEE SECTION "A-A" DWG. E-3)



FRONT VIEW
(SEE SECTION "E-E" DWG. E-3)



FRONT VIEW
(SEE SECTION "B-B" DWG. E-3)

NOTES:

1. FOR LEGEND, ABBREVIATIONS AND SUMMARY OF EQUIPMENT SEE DRAWING E-1

SCHEDULE LEGEND

1. FUSE - CURRENT LIMITING FUSES, SEE SPECIFICATION.
2. SPACE - SPACE SHALL BE A FULLY EQUIPPED COMPARTMENT WITH BUS, PRIMARY & SECONDARY DISCONNECTS & CRADLE FOR DRAWOUT BREAKERS.
3. PROVIDE LUGS ON BREAKER AND GROUND BUS FOR CONDUCTORS SHOWN IN SCHEDULE ON THIS DRAWING.
4. PROVIDE LUGS ON GROUND BUS AS FOLLOWS:
   2000A FRAME = 5-250MCM
   1600A FRAME = 3 #4/0
   800A FRAME = 3 #1/0

X INDICATES REQUIRED
--- NOT REQUIRED

LOW VOLTAGE MAIN, TIE AND FEEDER AIR CIRCUIT BREAKERS SCHEDULE

SWITCHGEAR SECTIONS	BKR COMPT. NO.	LOAD DESCRIPTION	CIRCUIT BREAKER CHARACTERISTICS & ACCESSORIES								FEEDER			
			FRAME	TRIP	SOLID STATE TRIP UNIT L.T.	S.T.	INSTA.	G.F.	U.V. TRIP	MONITORING & CONTROL FUNCTIONS. SEE SPECS	FUSE (1)	DESIGNATION	CONDUIT QTY	CONDUIT SIZE	CONDUCTORS PER CONDUIT (3)
MAIN FUSED AIR CKT BKR-SWGR SECT. N1	N1	MAIN AIR CKT. BREAKER 75 N A1 N1	4000A	4000A	X	X	X	X	--	--	5000A	--	--	--	
LOW VOLTAGE FDR SWGR SECT. BUS 1	1-1	SPARE	1600A	1600A	X	X	X	X	X	X	2500A	--	--	--	-(4)
LOW VOLTAGE FDR SWGR SECT. BUS 1	1-2	(R2a) 480/277V ELEC. CLOS. "N" 77th TO 84th FL	1600A	1600A	X	X	X	X	X	X	2500A	F-SN75R-2a	--	--	2000A BUSWAY
LOW VOLTAGE FDR SWGR SECT. BUS 1	1-3	(R8) PONYA - 70th FLOOR HVAC AND COMPUTER (75KVA TRANSF)	800A	400A	X	X	X	X	X	X	600A	F-SN75R-8	1	3 1/2"C	3-500MCM & 1 # 1/0 GND
LOW VOLTAGE FDR SWGR SECT. BUS 1	1-4	(R4) ELEVATOR BUS #EL-75N VIA TRANSFER SWITCH	1600A	1200A	X	X	X	X	--	X	2000A	F-SN75R-4	3	3 1/2"C	3-500MCM & 1 # 3/0 GND
LOW VOLTAGE FDR SWGR SECT. BUS 1	1-5	SPACE (2)	1600A	--	--	--	--	--	--	--	--	--	--	--	-(4)
LOW VOLTAGE FDR SWGR SECT. BUS 1	1-6	PANEL #DP-75N	800A	800A	X	X	X	X	X	X	1200A	(1-6)	2	3 1/2"C	4-500MCM & 1 # 2/0 GND
TIE FUSED AIR CKT BKR-SWGR SECT. T1-3	T1-3	TIE AIR CKT. BREAKER 75 N T1-3	4000A	4000A	X	X	X	X	--	X	4000A				4000A BUSWAY
MAIN FUSED AIR CKT BKR-SWGR SECT. N2	N2	MAIN AIR CKT. BREAKER 75 N A2 N2	4000A	4000A	X	X	X	X	--	--	5000A	--	--	--	
LOW VOLTAGE FDR SWGR SECT. BUS 2	2-1	(R1) 208/120V TRANS'F-ELEC. CLOS. "N" 77th TO 92nd FL	1600A	800A	X	X	X	X	X	X	1200A	F-SN75R-1	2	3 1/2"C	3-500MCM & 1 # 2/0 GND
LOW VOLTAGE FDR SWGR SECT. BUS 2	2-2	(R2b) 480/277V ELEC. CLOS. "N" - 85th TO 92nd FL	1600A	1600A	X	X	X	X	X	X	2500A	F-SN75R-2b	--	--	2000A BUSWAY
LOW VOLTAGE FDR SWGR SECT. BUS 2	2-3	(R-9) PONYA - N.W. TRANSFER SWITCH, 70th FL.	800A	400A	X	X	X	X	X	X	600A	F-SN75R-9	1	3 1/2"C	3-500MCM & 1 # 1/0 GND
LOW VOLTAGE FDR SWGR SECT. BUS 2	2-4	(R5) MOTOR CONTROL CENTER # MN75R	1600A	1200A	X	X	X	X	X	X	2000A	F-SN75R-5	3	3 1/2"C	3-500MCM & 1# 3/0 GND
LOW VOLTAGE FDR SWGR SECT. BUS 2	2-5	SPARE	1600A	1600A	X	X	X	X	X	X	2500A	--	--	--	-(4)
LOW VOLTAGE FDR SWGR SECT. BUS 2	2-6	(R-BT) EMERG LIGHTING PANELS ALTERNATE SOURCE 59th TO 92nd	800A	225A	X	X	X	X	--	X	350A	F-SN75R-BT	1	2 1/2"C	3 # 4/0 & 1 # 2 GND
LOW VOLTAGE FDR SWGR SECT. BUS 2	2-7	(R3) WATER SUPPLY PUMPS (1-75HP & 1-40HP)	800A	400A	X	X	X	X	X	X	600A	F-SN75R-3	1	3 1/2"C	3-500MCM & 1 # 1/0 GND
LOW VOLTAGE FDR SWGR SECT. BUS 2	2-8	SPARE	2000A	2000A	X	X	X	X	X	X	3000A	--	--	--	-(4)
TIE FUSED AIR CKT BKR-SWGR SECT. T1-2	T1-2	TIE AIR CKT. BREAKER 75 N T1-2	4000A	4000A	X	X	X	X	--	X	4000A				4000A BUSWAY
MAIN FUSED AIR CKT BKR-SWGR SECT. N3	N3	MAIN AIR CKT. BREAKER 75 N A3 N3	4000A	4000A	X	X	X	X	--	--	5000A	--	--	--	
LOW VOLTAGE FDR SWGR SECT. BUS 3	3-1	SPARE	1600A	1600A	X	X	X	X	X	X	2500A	--	--	--	-(4)
LOW VOLTAGE FDR SWGR SECT. BUS 3	3-2	(L4b) 480/277V - ELEC. CLOS. "N" - 59th TO 66th FL	1600A	1600A	X	X	X	X	X	X	2500A	F-SN75L-4b	--	--	2000A BUSWAY
LOW VOLTAGE FDR SWGR SECT. BUS 3	3-3	SPARE	800A	800A	X	X	X	X	X	X	1200A	--	1	--	2#2/0 GND
LOW VOLTAGE FDR SWGR SECT. BUS 3	3-4	(L5) HOT WATER HEATERS	800A	400A	X	X	X	X	X	X	600A	F-SN75L-5	1	3 1/2"C	3-500MCM & 1 # 1/0 GND
LOW VOLTAGE FDR SWGR SECT. BUS 3	3-5	(L1) ELEVATOR DISTRIBUTION PANELS EL-A75W-A & EL-A76E-A	2000A	2000A	X	X	X	X	--	X	3000A	F-SN75L-1	5	3 1/2"C	3-500MCM & 1-250MCM GND
TIE FUSED AIR CKT BKR-SWGR SECT. T3-4	T3-4	TIE AIR CKT. BREAKER 75 N T3-4	4000A	4000A	X	X	X	X	--	X	4000A				4000A BUSWAY
MAIN FUSED AIR CKT BKR-SWGR SECT. N4	N4	MAIN AIR CKT. BREAKER 75 N A4 N4	4000A	4000A	X	X	X	X	--	--	5000A	--	--	--	
LOW VOLTAGE FDR SWGR SECT. BUS 4	4-1	(L3) 208/120V TRANS'F. ELEC. CLOS. "N" - 59th TO 74th FL	1600A	800A	X	X	X	X	X	X	1200A	F-SN75L-3	2	3 1/2"C	3-500MCM & 1 # 2/0 GND
LOW VOLTAGE FDR SWGR SECT. BUS 4	4-2	(L4a) 480/277V - ELEC. CLOS. "N" - 67th TO 74th FL	1600A	1600A	X	X	X	X	X	X	2500A	F-SN75L-4a	--	--	2000A BUSWAY
LOW VOLTAGE FDR SWGR SECT. BUS 4	4-3	SPACE (2)	800A	--	--	--	--	--	--	X	--	--	1	--	2#2/0 GND
LOW VOLTAGE FDR SWGR SECT. BUS 4	4-4	(L7) MOTOR CONTROL CENTER #MN75L	1600A	1200A	X	X	X	X	X	X	2000A	F-SN75L-7	3	3 1/2"C	3-500MCM & 1 # 3/0 GND
LOW VOLTAGE FDR SWGR SECT. BUS 4	4-5	SPACE	1600A	--	--	--	--	--	--	--	--	--	--	--	-(4)
LOW VOLTAGE FDR SWGR SECT. BUS 4	4-6	(L8T) FIRE PUMP (150 HP)	800A	600A	X	X	X	--	--	X	1000A	F-SN75L-8T	2	3"C	3-500MCM & 1 # 2/0 GND
TIE FUSED AIR CKT BKR-SWGR SECT. T2-4	T2-4	TIE AIR CKT. BREAKER 75 N T2-4	4000A	4000A	X	X	X	X	--	X	4000A				4000A BUSWAY
LOW VOLTAGE FDR SWGR SECT. BUS EL	--	L.V. FDR. SWGR. SECT. 75 N BUS EL (INCOMING FEEDER R-4)	--	--	--	--	--	--	--	--	--	F-SN75R-4	3	3 1/2"C	3-500MCM & 1 # 3/0 GND
LOW VOLTAGE FDR SWGR SECT. BUS EL	EL-1	(R10) ELEVATOR DISTRIBUTION PANEL # EL-A-56A	500A	300A	X	X	X	X	--	X	450A	F-SN75R-10	1	2 1/2"C	3-250MCM & 1 # 2 GND
LOW VOLTAGE FDR SWGR SECT. BUS EL	EL-2	(R11) ELEVATOR DISTRIBUTION PANEL # EL-A-63A	800A	400A	X	X	X	X	--	X	600A	F-SN75R-11	1	3 1/2"C	3-500MCM & 1 # 1/0 GND
LOW VOLTAGE FDR SWGR SECT. BUS EL	EL-3	(R12) ELEVATOR DISTRIBUTION PANEL # EL-A-69A	800A	400A	X	X	X	X	--	X	600A	F-SN75R-12	1	3 1/2"C	3-500MCM & 1 # 1/0 GND
LOW VOLTAGE FDR SWGR SECT. BUS EL	EL-4	(R13) ELEVATOR DISTRIBUTION PANEL # EL-A-76A	800A	600A	X	X	X	X	--	X	1000A	F-SN75R-13	2	3"C	3-350MCM & 1 # 2/0 GND

Sheet 9 Of 15

THE PORT AUTHORITY OF NY & NJ

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Jack Bubrouski
CHIEF ELECTRICAL ENGINEER

Engineering Department
Design Divisions

The World Trade Center Electrical/HVAC Upgrade Program

Title

ELECTRICAL SUBSTATION EQUIPMENT TOWER ONE AND TWO

ELECTRICAL

TOWER ONE SUBSTATION SS-75N FRONT VIEW & SCHEDULES

No.	Date	Revision	Approved

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Designed by	Drawn by	Checked by
FISCHER	D. LEAHY	JM

Date FEB 10, 1995 Scale NONE

Contract Number WTC-802.072A Drawing Number E-8

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